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| 09/364,308      | 07/30/1999  | CAO THANH PHAN       | Q55268              | 9268             |

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EXAMINER

SHAH, CHIRAG G

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2664

DATE MAILED: 02/13/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/364,308

Applicant(s)

PHAN ET AL.

Examiner

Chirag G Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/19/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 10 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The result of the claimed invention as a whole does not produce a “useful, concrete and tangible results.” *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601-02. Thus, claims 1 and 10 merely represent an abstract idea and the purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an abstract idea or concept. In addition, the claims are not in “technological arts.” The phrase “technological arts” has been used to offer another view of the term “useful arts”. The constitution of the United States authorizes and empowers the government to issue patents only for inventions which promote progress in the “useful arts”. When no form of technology is found in the claim, for example mentally evaluating intangible assets and manually plotting the results on a paper chart, the claimed invention remains abstract and thus subject to rejection under 35 U.S.C. 101.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent No. 6,122,283) in view of Grittins et al (U.S. Patent No. 5,638,363).

Referring to claims 1, 2 and 4, Lee teaches of compressed topology aggregation of a group of switching nodes and interconnecting links. Lee further teaches in figure 3 and claim 1 and respective portions of the specification of routing between a source node and a destination node network having nodes connected by links, compression is used on at least one of the links. Lee teaches in column 5 of performing at least 2 calculations such as Dijkstra and Floyd-Warshall methodologies for deriving the compressed topology aggregation of figure 3. The Dijkstra methodology is used to determine shortest paths from a given vertex to all the vertices and the Floyd-Warshall determines shortest paths from each vertex to every other vertex. Lee further teaches in column 5 lines 35 to column 6 lines 47 that the method further comprises choosing a cost or metric function wherein the routing minimizes the cost function as claims. Lee as disclosed before teaches in column 5 of a routing calculation for a given number of compressions uses the Dijkstra algorithm and verifies the number of compressions when adding a node to the routes as claims. Lee also teaches of performing two routing calculations with respect to compressed links, but fails to explicitly disclose that performing at least two routing calculation for a maximum number of compression is of signal compressions and routing calculations comprising a first routing calculation for a number of links using signal compression that is less than the maximum number, and a second routing calculation for the maximum number of links using signal compression using information obtained from the first routing

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calculation. Grittins discloses in claims 1-5, 22-30, figures 3 and 4 and respective portions of the specification of a network having a plurality of interconnected switching devices and teaches of routing different types of traffic between source node and destination node in a network having nodes connected by links, wherein at least one link uses signal compression (compressing voice data via bandwidth managing device that analyzes the data to be transmitted and provides a level of compression that is dependent on the type of data being transmitted) and the remaining links do not use signal compression (non-voice data without compression). Grittins further discloses in figure 3, lines 60-67 that signaling data is data which is used to control the routing of all traffic send by the user. Grittins further discloses in column 4, lines 1-62 and in claim 37 where a first communications link connects a user's site to the main network via a first of the switching devices and a bandwidth manager provides a data compression that is dependent on the type of data being transmitted and second communications link connecting a second user's site to the main network via a second of the switching devices and a respective bandwidth manager for non-voice data traffic type. Grittins thus, provides multiple calculations for each traffic type with respect to links from source to destination. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Lee to include the teachings of Grittins with respect to calculating different links providing a compression level dependent on the type of data traffic in order to increase efficiency and optimize routing form source to destination in addition to saving bandwidth.

Referring to claims 10, 11 and 13, Lee teaches of compressed topology aggregation of a group of switching nodes and interconnecting links. Lee further teaches in figure 3 and claim 1 and respective portions of the specification of routing between a source node and a destination

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node network having nodes connected by links, compression is used on at least one of the links.

Lee teaches in column 5 of performing at least 2 calculations such as Dijkstra and Floyd-

Warshall methodologies for deriving the compressed topology aggregation of figure 3. The

Dijkstra methodology is used to determine shortest paths from a given vertex to all the vertices

and the Floyd-Warshall determines shortest paths from each vertex to every other vertex. Lee

further teaches in column 5 lines 35 to column 6 lines 47 that the method further comprises

choosing a cost or metric function wherein the routing minimizes the cost function as claims.

Lee as disclosed before teaches in column 5 of a routing calculation for a given number of

compressions uses the Dijkstra algorithm and verifies the number of compressions when adding

a node to the routes as claims. Lee also teaches of performing two routing calculations with

respect to compressed links, but fails to explicitly disclose performing first routing calculation

with links that don not use signal compression and a second routing calculation on links using

signal compression and a third for the number of links using signal compression obtained form

the first and second routing calculations. Grittins discloses in claims 1-5, 22-30, figures 3 and 4

and respective portions of the specification of a network having a plurality of interconnected

switching devices and teaches of routing different types of traffic between source node and

destination node in a network having nodes connected by links, wherein at least one link uses

signal compression (compressing voice data via bandwidth managing device that analyzes the

data to be transmitted and provides a level of compression that is dependent on the type of data

being transmitted) and the remaining links do not use signal compression (non-voice data

without compression). Grittins further discloses in figure 3, lines 60-67 that signaling data is

data which is used to control the routing of all traffic send by the user. Grittins further discloses

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in column 4, lines 1-62 and in claim 37 where a first communications link connects a user's site to the main network via a first of the switching devices and a bandwidth manager provides a data compression that is dependent on the type of data being transmitted and second communications link connecting a second user's site to the main network via a second of the switching devices and a respective bandwidth manager for non-voice data traffic type. Grittins thus, provides multiple calculations for each traffic type with respect to links from source to destination. Grittins further discloses in claim 22 and respective portions of the specification of performing a third calculation that uses information obtained from the first and second routing calculations, thus, multiplexing the traffic of the first and second types for transmission over the link at the user's end of the link. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Lee to include the teachings of Grittins with respect to calculating different links providing a compression level dependent on the type of data traffic in order to increase efficiency and optimize routing from source to destination in addition to saving bandwidth.

Referring to claims 3 and 12, Lee teaches in column 5 of performing at least 2 calculations such as Dijkstra and Floyd-Warshall methodologies for deriving the compressed topology aggregation of figure 3. The Dijkstra methodology is used to determine shortest paths from a given vertex to all the vertices and the Floyd-Warshall determines shortest paths from each vertex to every other vertex. Lee discloses in claims 2, 9, and 10 and respective portions of the specification of a routing calculation for a maximum number of compressions comprises iteratively processing alternate paths between the pair of vertices to identify an optimal path there between and testing each optimal path for redundancy with respect to previously

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determined optimal path and saving the optimal path for a routing calculation on which signal compression is used. Thus, disclosing a routing calculation at a node where the number of links using signal compression from the source node is equal to the maximum number, seeking and saving for a subsequent routing calculation adjacent links on which compression is used as claim.

***Allowable Subject Matter***

4. Claims 5-9 and 14-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**Or faxed to:**

(703)305-3988, (for formal communications intended for entry)

**Or:**

(703)305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs  
February 4, 2004

  
Ajit Patel  
Primary Examiner